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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,483	02/09/2004	B. Alex Robinson	TEGI0003C	1046

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EXAMINER	
JORGENSEN, LELAND R	

ART UNIT	PAPER NUMBER
2675	

DATE MAILED: 11/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/775,483	ROBINSON ET AL.	
	Examiner	Art Unit	
	Leland R. Jorgensen	2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 - 6 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Vargas, USPN 5,748,512.

Claims 1, 4, and 5

Vargas teaches a text entry system comprising a user input device 16 with the auto-correcting keyboard region 22. The user input device comprises a touch sensitive surface including an auto-correcting keyboard region. The keyboard region comprises a plurality of characters of an alphabet. Each of the plurality of characters corresponds to a location with known coordinates in the auto-correcting keyboard region. Each time a user contacts the user input device within the auto-correcting keyboard region, a location associated with the user interaction is determined. The determined interaction location is added to a current input sequence of contact locations. Vargas, col. 4, lines 61 – col. 5, line 2; col. 5, lines 25 – 26; and figures 1 and 2.

Vargas teaches a memory 12 containing a plurality of objects. Each object is associated with a promotion value. Vargas, col. 1, line 62 - col. 2, line 12 and figure 1. Vargas teaches each of the plurality of objects in memory is further associated with one or a plurality of predefined

groups of objects. For example, Vargas teaches that each object may be a prefix to an email name and each is associated with one or more email addresses. Vargas, col. 8, lines 43 – 64.

Vargas teaches an output device 16 with a text display area 114. Vargas, figures 1 and 6.

Vargas teaches a processor 122 coupled to the user input device 126, memory 120 and output device 126. See Vargas, figures 1 and 7. The processor comprises a distance value calculation component that calculates a set of distance value between the interaction locations, and the known coordinate locations corresponding to one or a plurality of characters within the auto-correcting region, for each determined interaction location in the input sequence of interactions. Vargas, col. 4, lines 61 – col. 5, lines 2.

A word evaluation component identifies one or a plurality of candidate objects in memory, for each input sequence. For each of the one or a plurality of identified candidate objects, the word evaluation component evaluates each identified candidate by calculating a matching metric based on the calculated distance value and the promotion value associated with the object and ranks the evaluated candidate objects based on the calculated matching metric value. Vargas, lines 25 – 31.

A selection component identifies one or a plurality of candidate objects in memory according to their evaluated ranking, presents the identified objects to the user, and enables the user to selected one of the presented objects for output to the text display area on the output device. Vargas, col. 3, lines 6 – 9; col. 9, lines 42 – 48; col. 11, lines 9 – 25; col. 14, lines 15 – 17; col. 20, lines 42 – 56; figure 6 [misidentified as figure 15 in col. 11, lines 9 – 10] and figure 13.

Vargas teaches a promotion component for setting a relative promotion value associated with each object in memory as a function of the number of the user setting interaction with the plurality of objects. Vargas, col. 7, lines 54 – 67; col. 9, lines 2 – 14; col. 13, lines 28 – 37; col. 14, lines 33 – 40; and col. 21, lines 29 – 47.

Claims 2 and 3

Vargas teaches that the promotion value is associated with each object in memory comprises the ordinal ranking of the object with respect to other objects in memory, wherein an object associated with a higher promotion value corresponds to a numerically lower ordinal ranking, and wherein when an object is selected for output by the user, the promotion component adjusts the ordinal ranking associated with the selected object by an amount that is a function of the ordinal ranking of the object prior to the adjustment. Vargas, col. 8, lines 3 – 64.

Claim 6

Vargas teaches that the word evaluation component calculates the matching metric for each candidate object by summing the distance values calculated from each interaction location in the input sequence to the location assigned to the character in the corresponding position of the candidate object, and applying a weighting function according to the frequency of use associated with the object. Vargas, col. 16, lines 55 – 67.

Claim 18

Vargas teaches that the processor further comprises a frequency promotion component for adjusting the frequency of use associated with each object in memory as a function of the number of times the object is selected by the user for output to the text display area on the output

device. Vargas, col. 7, lines 54 – 67; col. 9, lines 2 – 14; col. 13, lines 28 – 37; col. 14, lines 33 – 40; and col. 21, lines 29 – 47.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 7, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vargas in view of Raguseo, USPN 5,784,008.

Claim 7

Vargas does not specifically state that each character is assigned a Cartesian coordinate.

Raguseo teaches that each character of the alphabet associated with the auto-correcting keyboard region is assigned a Cartesian coordinate and wherein the distance value calculation component calculates the distance between the interaction location and the location corresponding to a character according to standard Cartesian coordinate distance analysis. Raguseo, col. 3, line 61 – col. 4, line 5.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Cartesian coordinate system of Raguseo with the text entry system of Vargas. The Cartesian coordinate system is one of the easiest to use and would lend itself to the coordinate system described by Vargas. Raguseo teaches,

> With such a reference system it is possible to use the usual two dimensional Cartesian rules, for example, to evaluate the "distance" between two keys. This is useful for establishing the movement that the user's finger requires for pressing the keys of two consecutive characters.

Raguseo, col. 4, lines 1 – 5. Such system presents the user with the most common and difficult words needed. Raguseo notes that the most common words are not always the best words to present to the user.

> The second parameter, the difficulty of the word, gives each word a weight, which is used to "adjust" the frequency importance on the choice of the set. Without this weight it could happen that a frequently used word, but very easy to be written (e.g. a very short word, one or two characters long) is preferred to a much more "difficult" word, frequently used, but not so frequently like the other one.

Raguseo, col. 3, lines 20 – 26.

Claim 9

Raguseo teaches that the word evaluation component adds an increment value to the sum of the distance values prior to applying a weighting function according to the frequency of use associated with the candidate object. Raguseo, col. 4, lines 6 – 67.

Claim 10

Raguseo teaches that the word evaluation component calculates the matching metric for each candidate object by summing the distance values calculated from each interaction location in the input sequence to the location assigned to the character in the corresponding position of the candidate object, and applying a weighting function according to the frequency of use associated with the object. Raguseo, col. 3, line 61 – col. 4, line 67.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vargas in view of Gallant, USPN 5,317,507.

Claim 8

Vargas does not specifically teach that the frequency of use associated with each candidate object in memory comprises the ordinal ranking of the object.

Gallant teaches that the frequency of use associated with each candidate object in memory comprises the ordinal ranking of the object with respect to other objects in memory, wherein an object associated with a higher relative frequency corresponds to a numerically lower ordinal ranking. Gallant, col. 1, lines 7 – 12, 59 – 66, col. 4, lines 40 – 52.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the ranking system of Gallant with the user input device of Vargas to provide a more efficient word listing system. Gallants states,

> The method of the present invention can also be used for word sense disambiguation. A series of words surrounding an ambiguous word in a text are input into a processing system in machine readable form. Uninteresting words are removed and a context vector is located for each of the remaining words. The context vectors are combined to obtain a summary vector for the series of words. Ambiguous words have a plurality of context vectors, one context vector for each of the meanings of the ambiguous word. The context vector closest to the summary vector is used to identify the appropriate meaning for the word.
>
> By storing documents in the form of summary vectors in accordance with the present invention, searching for appropriate documents is greatly simplified and matches to queries are improved. The cluster tree employing centroid consistent clustering gives an efficient way of finding nearest neighbor vectors in high-dimensional spaces. This has application in many schemes beyond the document searching embodiment described herein.

Gallant, col. 3, lines 21 – 42.

6. Claims 11 - 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vargas in view of Goldwasser et al, USPN 4,559,598 [Hereafter Goldwasser 598].

Claim 11

Vargas invites one to consider using already available word prediction modules with its invention. Vargas, col. 8, lines 22 – 64.

Vargas, however, does not specifically teach that the selection component presents the identified one or a plurality of candidate objects for selection by the user in a candidate object list in the text display area.

Goldwasser 598 teaches selection component presents the identified one or a plurality of candidate objects for selection by the user in a candidate object list in the text display area. Goldwasser 598, col. 2, lines 9 – 40; and figures 1 and 2.

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the selection method of Goldwasser 598 with the text entry system of Vargas to provide a text entry system that is easy to use. Goldwasser 598 teaches,

> An object of this invention is to provide a method of creating text using a personal computer, which method is easy to learn but holds the possibility of permitting both young children and adults to create text at higher rates than present methods permit.
>
> Another object of this invention is to provide a method of creating text which allows a person to use a word even if he is not sure of the correct spelling of that word.

Goldwasser 598, col. 1, lines 33 – 40.

Claim 12

Goldwasser 598 teaches that the user selection of a character that is associated with a interaction outside of the auto-correcting keyboard region accepts and outputs the determined highest ranked candidate object at a text insertion point in the text display area prior to outputting

the selected character at the text insertion point in the text display area. Goldwasser 598, col. 2, lines 41 – 46; col. 5, lines 59 – 67; and figures 1 and 2.

Claim 13

Goldwasser 598 teaches that user selection of an object for output at a text insertion point in the text display area terminates the current input sequence such that the next interaction within the auto-correcting keyboard region starts a new input sequence. Goldwasser 598, col. 4, lines 63 – 68.

Claim 14

Goldwasser 598 teaches that the word evaluation component determines, for each determined interaction location in each input sequence of interaction locations, the closest known location corresponding to a character, and constructs an exact typing object composed of the determined corresponding characters in the order corresponding to the input sequence of interaction locations. Goldwasser 598, col. 2, lines 3 – 40.

Claim 15

Goldwasser 598 teaches that the selection component identifies the highest ranked candidate object and presents the identified object at the text insertion point in the text display area on the output device. Goldwasser 598, col. 2, lines 25 – 60.

Claim 17

Goldwasser 598 teaches that when a threshold number of interaction locations in the input sequence are further than a threshold maximum distance from the corresponding character in the sequence of characters comprising a given candidate object, the object is identified as no

longer being a candidate object for the selection component. Goldwasser 598, col. 3, line 55 – col. 4, line 60.

7. Claims 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vargas in view of Goldwasser, USPN 4,891,786 [Hereafter Goldwasser 786].

Claim 16

As noted above, Vargas invites one to consider using already available word prediction modules with its invention. Vargas, col. 8, lines 22 – 64.

Vargas does not specifically teach a stroke recognition component.

Goldwasser 786 teaches the processor further a stroke recognition component that determines for each user interaction action within the auto-correcting keyboard region whether the point of interaction is moved less than a threshold distance from the initial interaction location prior to being lifted from the touch sensitive surface, and whereby when the point of interaction is moved less than a threshold distance from the initial interaction location prior to being lifted from the touch sensitive surface, the stroke recognition component determines that the user interaction is a tap interaction, and the location determined to be associated with the user interaction is added to the current input sequence of interaction locations to be processed by the distance value calculation component, the word evaluation component, and the selection component, and whereby when the point of interaction is moved greater than or equal to a threshold distance from the initial interaction location prior to being lifted from the touch sensitive surface, the stroke recognition component determines that the user interaction is one of a plurality of stroke interactions that are associated with known system functions, and classifies

the stroke interaction as one of the plurality of predefined types of stroke interactions.

Goldwasser 786, col. 4, line 12 – col. 5, line 15; and col. 5, line 34 – 55.

Especially in view of the invitation in Vargas, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the stroke recognition component of Goldwasser 786 with the text entry system of Vargas to increase the speed that data may be typed into a text. Goldwasser 786 teaches

> A principal object of the present invention is to provide an improved method of entering text and/or commands into a computer memory which is both compatible with existing text entry methods and permits the entry of text and/or commands at a much higher rate of speed than is possible with conventional or standard typing.

Goldwasser 786, col. 2, lines 3 – 9. Goldwasser 786 teaches the compatibility of its modules with other text entry systems.

> The improved method according to the present invention may be used with a standard digital computer system having a central processing unit, a memory, a character imaging device such as a CRT display and a standard character keyboard capable of sensing key presses by the system operator that designate individual characters, such as alphanumeric characters, each of which is identified in the computer system by an associated character code. The digital computer system is operated with its own, conventional "operating system" software as well as any "word processing" software or other applications program which requires the entry of text. The present invention serves to enter text into a "text buffer" section of its random access memory. From the text buffer, the text is passed to a display refresh buffer which serves to maintain the image of the text on the associated display screen.

Goldwasser 786, col. 3, lines 1 – 17. Goldwasser I teaches about the speed of entry,

> The present invention thus facilitates the rapid entry of text into a computer system without interfering, in any way, with the normal typing capability and features of the machine. The rapid entry of text is made possible by the typing of so-called "keystrokes", which are respectively associated with so-called "linguistic expressions" that are entered into the computer and concatenated with the current line of text. The present invention is therefore denominated a "stroke typing system".

Goldwasser 786, col. 4, lines 9 – 17.

Double Patenting

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claims 1 – 18 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 11, 12, 16, 18, 24, 34, 36, 37, 39, 43, 52, 53, and 57 of U.S. Patent No. 6,801,190 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because new claim 1, 4, and 5 are nearly the

same as the issued claim 1 except that the issued claim 1 uses the term frequency promotion component rather than simply promotion component and adds that this component decreases the relative frequency of use associated with each object in memory as a functions of the number of times that the component is passed over by the user. It would have been obvious to one of ordinary skill in the art at the time of the invention to exclude decreasing the relative frequency of use because this would be a simpler function to program.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leland R. Jorgensen whose telephone number is 703-305-2650. The examiner can normally be reached on Monday through Friday, 7:00 a.m. through 3:30 p.m..

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER